

WHAT IS CLAIMED IS:

1. A method for making a fiber reinforced composite article comprising the steps of:

providing a plurality of layers of first, substantially dry, unimpregnated reinforcing fibers;

stacking the layers generally one upon another into a preform of a stack of layers;

while in the substantially dry, unimpregnated condition, inserting into the preform at an angle to the stack of layers a plurality of spaced apart second reinforcing members; and,

impregnating the preform with a matrix about the first reinforcing fibers and the second reinforcing members.

2. The method of claim 1 in which:

the first and second reinforcing fibers comprise at least one material selected from the group consisting of carbon, graphite, glass, and metal; and,

the matrix is a curable resin.

3. The method of claim 1 in which the second reinforcing members extend substantially through the plurality layers of the preform.

4. The method of claim 1 in which the first reinforcing fibers in a layer substantially are aligned with one another.

5. The method of claim 2 in which the second reinforcing members comprise at least one member selected from the group consisting of bundles of fibers, single fibers and rods.

6. The method of claim 1 for making at least an airfoil of a turbine engine blading member comprising the steps of:

providing a plurality of layers of first, substantially dry, unimpregnated reinforcing fibers comprising at least one material selected from the group consisting of carbon, graphite, glass, and metal;

stacking the layers generally one upon another into a preform of a stack of layers;

while in the substantially dry, unimpregnated condition, inserting into the preform at an angle to the stack of layers a plurality of spaced apart second reinforcing members each comprising a bundle of fibers of at least one material selected from the group consisting of carbon, graphite glass and metal; and,

impregnating the preform with a matrix of a curable resin about the first reinforcing fibers and the second reinforcing members.

7. The method of claim 6 in which the first reinforcing fibers substantially are aligned with one another.

8. A fiber reinforced composite article comprising:  
a plurality of stacked layers of first reinforcing fibers comprising a stack of layers; and,

a plurality of spaced apart second reinforcing members disposed into the article at an angle to the stack of layers;

the second reinforcing members being disposed beside the first reinforcing fibers; and,

a substantially solid matrix disposed about the first reinforcing fibers and the second reinforcing members.

9. The article of claim 8 in which the first reinforcing fibers and the second reinforcing members comprise at least one material selected from the group consisting of carbon, graphite, glass, and metal.

10. The article of claim 9 in the form of a turbine engine article comprising:  
an airfoil including the stack of layers and the spaced apart second reinforcing members;

the first reinforcing fibers in a layer being substantially aligned with one another; and,

the second reinforcing members comprising at least one member selected from the group consisting of bundles of fibers, single fibers, and rods.